Amendment to the Claims

1. (Currently amended): A method of forming a capacitor comprising:

forming a first capacitor electrode over a substrate;

forming a second capacitor electrode over the substrate; and

forming a capacitor dielectric region intermediate the first and second capacitor electrodes, the capacitor dielectric region forming comprising:

forming a silicon nitride comprising layer over the first capacitor electrode;

after forming the silicon nitride comprising layer, oxidizing the substrate to form a silicon oxide comprising layer over the silicon nitride comprising layer and effective to fill pinholes present in the silicon nitride; and

exposing the silicon oxide comprising layer to an activated nitrogen species generated from a nitrogen-containing plasma effective to introduce nitrogen into at least an outermost portion of the silicon oxide comprising layer, and forming silicon nitride therefrom effective to increase a dielectric constant of the dielectric region from what it was prior to said exposing; and

said exposing occurring within a plasma chamber comprising a substrate receiver and a powerable electrode spaced therefrom by at least 0.1 inch, and with the substrate being received by the receiver, and by injecting a nitrogen comprising gas to within the chamber and with the electrode generating said nitrogen-containing plasma.

2. (Original): The method of claim 1 comprising forming the capacitor dielectric r gion to comprise an inner silicon oxide comprising layer received on the first capacitor electrode, with the silicon nitride comprising layer being formed on the inner silicon oxide comprising layer.

3. (Original): The method of claim 1 comprising forming the silicon oxide comprising layer on the silicon nitride comprising layer.

4. (Original): The method of claim 1 wherein said exposing and forming silicon nitride therefrom transforms only an outermost portion of said silicon oxide comprising layer to silicon nitride.

5. (Currently amended): A m thod of forming a capacitor comprising:

forming a first capacitor electrode over a substrate;

forming a second capacitor electrode over the substrate; and

forming a capacitor dielectric region intermediate the first and second capacitor electrodes, the capacitor dielectric region forming comprising:

forming a silicon nitride comprising layer over the first capacitor electrode;

oxidizing the substrate to form a silicon oxide comprising layer over the silicon nitride comprising layer and effective to fill pinholes present in the silicon nitride;

exposing the silicon oxide comprising layer to an activated nitrogen species generated from a nitrogen-containing plasma effective to introduce nitrogen into at least an outermost portion of the silicon oxide comprising layer, and forming silicon nitride therefrom effective to increase a dielectric constant of the dielectric region from what it was prior to said exposing; and

comprising forming the silicon oxide comprising layer on the silicon nitride comprising layer, the silicon oxide comprising layer including a portion which is everywhere received elevationally over the silicon nitride comprising layer, said exposing and forming silicon nitride therefrom transforming all of said portion to silicon nitride.

6. (Original): The m thod of claim 1 comprising forming the silicon oxide comprising layer on the silicon nitride comprising lay r, the silicon oxide comprising layer including a portion which is everywhere received elevationally over the silicon nitride comprising layer, said exposing and forming silicon nitride therefrom transforming only an outermost part of said portion to silicon nitride.

7. (Original): The method of claim 1 wherein the forming silicon nitride therefrom comprises thermally annealing the substrate at a temperature of at least 600°C after the exposing.

8. (Previously presented): A method of forming a capacitor comprising:

forming first capacitor electrode material over a semiconductor substrate, the first capacitor material comprising silicon;

forming a silicon nitride comprising layer over the first capacitor electrode material, the silicon nitride comprising layer comprising pinholes formed therein;

oxidizing a portion of the first capacitor electrode material to produce a silicon oxide comprising layer over the silicon nitride comprising layer and effective to fill said pinholes with silicon oxide;

exposing the silicon oxide comprising layer to an activated nitrogen species generated from a nitrogen-containing plasma effective to introduce nitrogen into the silicon oxide comprising layer, and forming silicon nitride therefrom, with at least some silicon oxide remaining within said previously formed pinholes; and

after the exposing, forming second capacitor electrode material over the substrate.

9. (Original): The method of claim 8 wherein said exposing and forming silicon nitride therefrom transforms an outermost portion of the silicon oxide within the pinholes to silicon nitride.

10. (Original): The method of claim 8 wherein said exposing and forming silicon nitride therefrom does not form any silicon nitride within the pinholes.

11. (Original): The method of claim 8 comprising forming the silicon oxide comprising layer on the silicon nitride comprising layer.

12. (Original): The method of claim 8 comprising forming an inner silicon oxide comprising layer on the first capacitor electrode material, with the silicon nitride comprising layer being formed on the inner silicon oxide comprising layer.

13. (Original): The method of claim 8 comprising forming the second capacitor electrode on silicon nitride of the capacitor.

14. (Original): The method of claim 8 wherein the forming silicon nitride therefrom comprises thermally annealing the substrate at a temperature of at least 600°C after the exposing.

15. (Original): A method of forming a capacitor comprising:

forming first capacitor electrode material comprising silicon over a semiconductor substrate;

oxidizing the first capacitor electrode material effective to form a first silicon oxide comprising layer thereon;

forming a silicon nitride comprising layer on the first silicon oxide comprising layer, the silicon nitride comprising layer comprising pinholes formed therein;

after forming the silicon nitride comprising layer, oxidizing the substrate effective to both fill said pinholes with silicon oxide material and form a second silicon oxide comprising layer on the silicon nitride comprising layer;

after filling said pinholes, exposing the second silicon oxide comprising layer to an activated nitrogen species generated from a nitrogen-containing plasma effective to introduce nitrogen into the second silicon oxide comprising layer, and forming outer silicon nitride therefrom, with at least some silicon oxide remaining within said previously formed pinholes; and

after the exposing, forming a second capacitor electrode material on the outer silicon nitride.

16. (Original): The method of claim 15 wherein the second silicon oxide comprising layer upon forming thereof includ s a portion which is everywhere received elevationally over the silicon nitride comprising layer, said exposing and forming outer silicon nitride therefrom transforming all of said portion to silicon nitride.

17. (Original): The method of claim 15 wherein the second silicon oxide comprising layer upon forming thereof includes a portion which is everywhere received elevationally over the silicon nitride comprising layer, said exposing and forming outer silicon nitride therefrom transforming only an outermost part of said portion to silicon nitride.

18. (Original): The method of claim 15 wherein said exposing and forming silicon nitride therefrom transforms an outermost portion of the silicon oxide within the pinholes to silicon nitride.

19. (Original): The method of claim 15 wherein said exposing and forming silicon nitride therefrom does not form any silicon nitride within the pinholes.

20. (Original): The method of claim 15 wherein the forming silicon nitride therefrom comprises thermally annealing the substrate at a temperature of at least 600°C after the exposing.

Claims 21-39 (Cancelled).

40. (Previously presented): The method of claim 1 wherein said plasma is spaced from an outermost portion of the substrate.

41. (Previously presented): The method of claim 1 wherein the electrode is spaced from the receiver by at least 1.0 inch.

42. (Previously presented): The method of claim 1 wherein the electrode is spaced from the receiver by at least 2.0 inches.

43. (Previously presented): The method of claim 1 wherein the electrode is spaced from the receiver by at least 4.0 inches.

44. (Previously presented): The method of claim 5 wherein said exposing occurs within a plasma chamber comprising a substrate receiver and a powerable electrode spaced therefrom by at least 0.1 inch, and with the substrate being received by the receiver, and by injecting a nitrogen comprising gas to within the chamber and with the electrode generating said nitrogen-containing plasma.

45. (Previously presented): The method of claim 44 wherein said plasma is spaced from an outermost portion of the substrate.

46. (Previously presented): The method of claim 44 wherein the electrode is spaced from the receiver by at least 1.0 inch.

47. (Previously presented): The method of claim 44 wherein the electrode is spaced from the receiver by at least 2.0 inches.

48. (Previously presented): The method of claim 44 wherein the electrode is spaced from the receiver by at least 4.0 inches.

49 (Previously presented): The method of claim 5 comprising forming the capacitor dielectric region to comprise an inner silicon oxide comprising layer received on the first capacitor electrode, with the silicon nitride comprising layer being formed on the inner silicon oxide comprising layer.

50. (Previously presented): The method of claim 5 comprising forming the silicon oxide comprising layer on the silicon nitride comprising layer.

51. (Previously presented): The method of claim 5 wherein the forming silicon nitride therefrom comprises thermally annealing the substrate at a temperature of at least 600°C after the exposing.

52. (Previously pr sented): The method of claim 8 wherein said exposing occurs within a plasma chamber comprising a substrate receiver and a powerable electrode spaced therefrom by at least 0.1 inch, and with the substrate being received by the receiver, and by injecting a nitrogen comprising gas to within the chamber and with the electrode generating said nitrogen-containing plasma.

53. (Previously presented): The method of claim 52 wherein said plasma is spaced from an outermost portion of the substrate.

54. (Previously presented): The method of claim 52 wherein the electrode is spaced from the receiver by at least 1.0 inch.

55. (Previously presented): The method of claim 52 wherein the electrode is spaced from the receiver by at least 2.0 inches.

56. (Previously presented): The method of claim 52 wherein the electrode is spaced from the receiver by at least 4.0 inches.

57. (Previously present d): Th method of claim 15 wherein said exposing occurs within a plasma chamber comprising a substrate receiver and a powerable electrode spaced therefrom by at least 0.1 inch, and with the substrate being received by the receiver, and by injecting a nitrogen comprising gas to within the chamber and with the electrode generating said nitrogen-containing plasma.

58. (Previously presented): The method of claim 57 wherein said plasma is spaced from an outermost portion of the substrate.

59. (Previously presented): The method of claim 57 wherein the electrode is spaced from the receiver by at least 1.0 inch.

60. (Previously presented): The method of claim 57 wherein the electrode is spaced from the receiver by at least 2.0 inches.

61. (Previously presented): The method of claim 57 wherein the electrode is spaced from the receiver by at least 4.0 inches.